



REPLY TO  
ATTENTION OF:

**DEPARTMENT OF THE ARMY**  
U.S. ARMY ENGINEER DIVISION, GREAT LAKES AND OHIO RIVER  
CORPS OF ENGINEERS  
P.O. BOX 1159  
CINCINNATI, OHIO 45201-1159

**RECORD OF DECISION**

**LOWER CUMBERLAND AND TENNESSEE RIVERS,  
KENTUCKY LOCK ADDITION  
LIVINGSTON AND MARSHALL COUNTIES, KENTUCKY**

**SYNOPSIS**

The Final Supplemental Environmental Impact Statement (FSEIS) addressing construction and operation of several modifications and design refinements for the Kentucky Lock Addition Project was filed with the Environmental Protection Agency on May 31, 2001. The Tennessee Valley Authority (TVA) cooperated in the preparation of the FSEIS. The review period for the FSEIS expired on July 9, 2001. The project is authorized and funding has been appropriated. This Record of Decision (ROD) documents the decision of the Division Engineer, Great Lakes and Ohio River Division, to proceed with implementation of the project modifications and was prepared pursuant to regulations of the Council on Environmental Quality (40 CFR 1505.2) and the implementing policy and procedures of the U.S. Army Corps of Engineers (33 CFR 230.14).

**DECISION**

The Final Feasibility Study and Final Environmental Impact Statement (FS/FEIS) for the Lower Cumberland and Tennessee Rivers Kentucky Lock Addition was completed on March 13, 1992. A ROD was signed on March 26, 1998. The FS/FEIS recommended a new 110-foot wide by 1200-foot long navigation lock be constructed at Kentucky Dam to alleviate delays and facilitate commercial navigation on the two rivers. The project was authorized by Section 101(a)(13) of the Water Resources Development Act of 1996 and funding to initiate construction was included in the Fiscal Year 1998 Energy and Water Development Appropriations Act.

The ROD signed in 1998 recognized that project design was being refined during Preconstruction Engineering and Design (PED) phase. The PED activities would require further assessment of project impacts, evaluation of opportunities to avoid or minimize adverse impacts and completion of additional National Environmental Policy Act (NEPA) assessments of impacts on these refinements.

It is my decision that the Kentucky Lock Addition Project be constructed with the suite of changes covered under the Proposed Action Plan of the FSEIS. Included in the Proposed Action Plan are the following:

- Shifting the new lock upstream about 200 feet and riverward about 20 feet;
- Modification of construction methods to lessen areas within cofferdams and to construct more features in the "wet";
- New non-public access road to the Vulcan Disposal Area;
- Mitigation for the loss of the TVA Taylor Park Campground (TPC), temporarily closed by TVA in 1997, through construction of a Lock Visitor's Center, Powerhouse Island Fishing Pier, additional Powerhouse Island restroom and parking, improved coffer-cell facility for fishermen, and West Bank Fishing Pier;
- Fill Placement in TPC during construction and possibly permanently;
- Mitigation for closure of the east bank boat ramp by expanding the west bank boat basin and constructing a new public boat ramp and courtesy dock in the expanded basin for use after construction;
- Use of the expanded boat basin for contractor activities during construction;
- Refinements in Upstream Lock Features and approach channel;
- Refinements in Downstream Lock Features and approach channel;
- Navigation Training Dike off Powerhouse Island to improve commercial navigation conditions;
- Mitigation for construction-related closures of the west bank by construction of two downstream fishing jetties and improvements to the existing west bank boat ramp;
- Spillway Training Dikes to improve recreational boating safety;
- Possible contractor access ramp on Powerhouse Island and east bank;
- New Lock Access Road to existing lock (fill placement);
- Elimination of new upstream and downstream mooring cells;
- Elimination of dredging to widen the downstream navigation channel to the Interstate 24 Bridge;
- Elimination of placement of excavated or dredged material on the east bank between Russell Creek and the Interstate 24 Bridge (3000 linear-feet);
- Elimination of aquatic disposal site at Tennessee River Mile 19.9.

### **ALTERNATIVE PLANS CONSIDERED**

Two broad plans were considered in the FSEIS. The No Action Plan would be to implement the approved project as described in the original FEIS (1992) and the subsequent 2000 Highway Bridge Relocation Environmental Assessment. The Proposed Action Plan includes changes covering several features based on the recent studies and engineering changes. All of the items listed in the Proposed Action Plan are independent features and could be dropped from consideration without jeopardizing the construction of the new lock chamber itself or other independent features. The Proposed Action Plan includes refinements to the approved design that provides improved river navigation and reduces many environmental impacts of the earlier design, including incorporating mitigation for unavoidable recreational impacts from the lock construction. The environmental impacts from the plan revisions to significant resources such as listed and non-listed mussel species or recreational fishing have been reduced to an acceptable level. None of the changes have resulted in any controversy.



The 1:100 scale Kentucky Lock Navigation Model at the Engineering Research and Development Center was utilized to evaluate alternative lock orientations and the design of the navigation and spillway training dikes. The model was used to develop designs that addressed the river conditions with minimal environmental impacts. Downstream effects on high quality mussel beds are not projected to change from existing conditions. The proposed lock location was selected because it reduced construction costs and environmental impacts by reducing the downstream channel and bank modifications that were previously anticipated. Modeling determined that bank excavations and excavations to widen the downstream navigation channel were not required. With the reduced volume of wet material requiring disposal, the need for an aquatic disposal site at river mile 19.9 has been eliminated. In addition, the need for placement of rock along the east bank between Russell Creek and the I-24 bridge has also been eliminated.

Alternative locations for replacement of the east bank boat ramp included other east bank locations, expansion of the existing west bank ramp (as proposed in the 1992 FEIS), and construction of a new ramp in an expanded west bank boat basin. Other east bank locations were dropped due to environmental (mussels) and safety concerns (proximity to lock approach channel). The location of the new ramp in the expanded boat basin was selected since it provided both recreational facilities and allowed construction uses. Alternative contractor ramp locations upstream of the basin had similar minimal impacts; therefore, the location in the expanded basin was selected. Locations in areas with known higher density of mussels were dropped during preliminary scoping discussions with the resources agencies.

## **ENVIRONMENTAL CONSIDERATIONS**

Compliance with applicable environmental review and consultation requirements has been accomplished through the development of the Supplemental EIS. The FSEIS documents consideration and compliance with the Fish and Wildlife Coordination Act; the Clean Water Act; the Endangered Species Act; the National Environmental Policy Act; the National Historic Preservation Act; Executive Order 11988 (Floodplain Management); Executive Order 12898 (Environmental Justice); Executive Order 11990 (Protection of Wetlands); Section 504 of the Rehabilitation Act of 1973 and the Architectural Barriers Act of 1968, and other applicable environmental protection statutes, regulations, and orders. All practical means to avoid or minimize environmental harm from the selected alternative have been adopted. During the scoping process and periodic review meetings, discussions resulted in screening of preliminary alternatives due to environmental or other concerns. Only those alternatives warranting further evaluation were pursued. As a result of the scoping process, protection of two primary environmental resources was emphasized, the high quality mussel populations and the fisheries (and associated high recreational use).

Compliance with the Clean Water Act has been achieved. A 404(b)(1) evaluation was prepared and included in the FSEIS. A determination was made that placement of fill material associated with the features covered in the FSEIS are in compliance with the



404 guidelines. The Kentucky Division of Water issued a 401 Water Quality Certification for the project on June 12, 2001. The certification requires that all construction adhere to the general conditions enclosed with the letter and the design outlined in the FSEIS. This would include the implementation of seasonal restriction on in-stream activity for fish spawning, mussel relocation efforts as spelled out in the FSEIS and compliance with Kentucky's general permit for controlling storm water runoff from construction sites.

During review of the DSEIS, the U.S. Fish and Wildlife Service (USFWS) and U.S. Environmental Protection Agency (EPA), Region IV submitted letters expressing concerns over potential impacts to mussels, wetlands, and archeological resources. Additional discussion to address these concerns were incorporated into the FSEIS. On May 3, 2001, EPA Region IV submitted a letter stating their original concerns have been satisfactorily addressed in the FSEIS. A similar letter was submitted from the USFWS on July 3, 2001.

Additional coordination has been performed with the USFWS and the Kentucky Department of Fish and Wildlife Resources (KDFWR) for compliance with Section 7 of the Endangered Species Act and the Fish and Wildlife Coordination Act. By a letter dated April 17, 2001, the USFWS concurred with the determination made by the Corps and TVA in the DSEIS that the previous Biological Opinion issued in January 2000 was adequate for covering the activities in this FSEIS. The terms and conditions of the Biological Opinion have been incorporated into the project design. This includes seasonal restrictions on tree cutting for protection of the Indiana Bat and mussel relocation procedures.

The Supplemental Fish and Wildlife Coordination Act (FWCA) Report was submitted by the USFWS on June 29, 2001. The report reiterated the quality of the Tennessee River below Kentucky Dam for recreational fishing and as an Outstanding Resource Water for the diverse and abundant mussel resources. The report emphasized the need for proper implementation of Best Management Practices to minimize sedimentation impacts downstream of the project. The report recommended three measures during and after completion of the project to augment those measures already in the project plans to protect fish and wildlife resources in the Kentucky Dam tailwater. Two recommendations pertain to the management of river traffic to minimize the backlog of traffic below the dam. The first USFWS recommendation is that improved communication should be provided between the lockmaster and tows traveling upstream to inform pilots when delays are occurring at the dam and that downstream mooring facilities should be used (in lieu of mooring at more environmentally sensitive areas near the dam). The second USFWS recommendation is that the lockmaster should continue to inform pilots not to moor on the landward side of the mooring cells immediately upstream of the Interstate 24 Bridge. These two recommendations will be referred to the lockmaster and measures to implement them within the Corps' authority will be considered. The third recommendation is to monitor the downstream mussel bed prior to and for two years after construction of the navigation training dike. The monitoring program should provide conclusive evidence of whether the dike is causing deposition (or

scour) on the mussel bed. This monitoring program will be developed and coordinated with pertinent agencies well in advance of dike construction. The FWCA Report contained language about reopening Section 7 of the Endangered Species Act if new information changes the "not likely to adversely affect" conclusion of the FSEIS. The Corps confirmed this language was in case of new information and that the previous April 17, 2001 letter from the USFWS provided evidence of Section 7 compliance based on present information.

All structures displacing aquatic habitat have been designed to the minimum size necessary to achieve the targeted effect (i.e. addressing river eddy formations). The construction of the structures will displace existing river bottom within the footprints for the navigation training dike, spillway training dikes and the west bank fishing jetties. Mussel relocation has been proposed for the navigation training dike and west bank jetties to reduce the direct impact. The west bank jetties will result in some permanent loss of quality mussel habitat. All three of these structures should provide long term improvements for fisheries habitat and benthic macroinvertebrate populations. The structures are to be constructed with rock containing minimal fine material so that objectionable turbidity would not be generated during construction. For in-stream activity, visual turbidity monitoring will be provided to insure that objectionable turbidity is not generated by the activity.

The modification in the new lock location has drastically reduced environmental impacts associated with the construction of lock approach channels. An aquatic disposal site has been eliminated due to the reduced volume of excavated material. All but a small portion of the east bank excavation has also been eliminated.

Recreational facilities closed or displaced by construction activities are being mitigated according to plans that have been coordinated with the public and resource agencies. Additional recreational and tailwater fishing facilities are being constructed with funds associated with the closure of the TVA Taylor Park Campground, including the Lock Visitors Center, two fishing piers, and additional parking and restroom facilities. As mitigation for the loss of public access to the tailwater west bank for 5-8 years during construction, west bank jetties are being constructed to provide additional shoreline area for fishing during construction. As mitigation for the loss of the east bank boat ramp, a new ramp and courtesy dock will be constructed in the expanded west bank boat basin for post-construction public use.

Environmental commitments presented in the FSEIS for the proposed plan include:

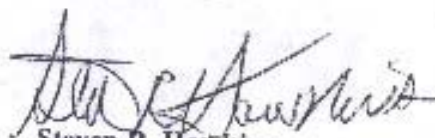
- Seasonal restrictions on in-stream activity for protection of fish spawning;
- Seasonal restriction on tree cutting for protection of Indiana Bats;
- Compliance with Kentucky general permit for storm water runoff from construction sites by proper implementation and maintenance of erosion controls;
- Performance of in-stream activity during low flow periods, where applicable;
- Visual turbidity monitoring during in-stream activities;



- If cultural resources are encountered, work is to stop until the site is investigated by a qualified archeologist;
- Use of a weighted silt curtain during construction of the expanded west bank boat basin;
- Use of rock with minimal fines for construction of in-stream structures such as dikes and jetties;
- Completion of successful wetland mitigation at Benton, Kentucky site;
- Notification of KDFWR during blasting activities for monitoring potential fish kills;
- Proper control of fugitive dust and tracking of sediment onto public roads;
- Compliance with solid waste regulations for disposal of demolition and construction related wastes;
- Mussel relocation within all but the spillway training dike footprint;
- Restoration of the Livingston County Trail System after construction use;
- Stabilization of all disturbed areas after construction, including use of native plants where areas are not to be mowed or manicured.

### CONCLUSIONS

I have reviewed and evaluated all documents pertaining to the proposed plan to modify the design and construction of a new 110-foot wide by 1200-foot long navigation lock and associated facilities at Kentucky Dam on the Tennessee River, including the views of affected federal, state, and local agencies, and the public. I find that the project has been developed consistent with national environmental statutes, applicable executive orders, and other Federal planning requirements. The proposed plan avoids and minimizes adverse environmental effects to the extent practicable and adequately mitigates for unavoidable damages to significant resources. I have concluded that the benefits of the proposed plan outweigh any adverse effects and that implementation of the project is in the public interest.

  
 Steven R. Hawkins  
 Brigadier General, U.S. Army  
 Division Engineer

Date: 20 July 2001

JAMES E. BICKFORD  
Secretary



PAUL E. PATTON  
Governor

COMMONWEALTH OF KENTUCKY  
**NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET**  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION  
FRANKFORT OFFICE PARK  
14 BILLY RD.  
FRANKFORT, KY 40601

June 12, 2001

Mr. Don Getty, Project Manager  
Kentucky Lock Addition  
Engineering Planning Division  
US Army Corps of Engineers  
PO Box 1070  
Nashville, TN 37202

RE: Water Quality Certification # 2001-0054-1,  
Construction of Kentucky Lock Addition at  
TRM # 22.4, Phase 1, Relocation of UT to  
Russell Creek, Livingston County

Dear Mr. Getty:

Pursuant to Section 401 of the Clean Water Act (CWA), the Commonwealth of Kentucky certifies it has reasonable assurances that applicable water quality standards under Kentucky Administrative Regulations Title 401, Chapter 5, established pursuant to Sections 301, 302, 303, 304, 306, and 307 of the CWA, will not be violated by the above project, provided that the following conditions are met:

1. The work approved by this certification is part of the larger project to construct a new navigation lock on the Tennessee River at TRM 22.4 and shall be limited to:
  - The relocation of 285 linear feet of a UT to Russell Creek to allow the construction of an access road to a waste fill disposal area.
2. All work performed under this certification shall adhere to the design and specifications set forth in the application for Water Quality Certification, dated May 7, 2001.
3. The applicant is responsible for preventing degradation of waters of the Commonwealth from soil erosion. An erosion and sedimentation control plan must be designed, implemented, and maintained in effective operating condition at all times during construction.



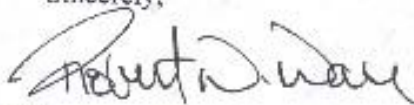
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Mr. Don Getty  
Page Two  
June 12, 2001

4. The Division of Water reserves the right to modify or revoke this certification should it be determined that the activity is in noncompliance with any condition set forth in this certification.
5. If construction does not commence within one year of the date of this letter, this certification will become void. A letter requesting a renewal should be submitted.
6. Attached with this letter is a listing of General Conditions for Water Quality Certification that apply to this project.
7. Other permits may be required from the Division of Water for this project. If this project will disturb 5 acres or more of land, a KPDES general storm water permit will be required from the KPDES Branch. The contact person is Doug Allgeier. He can be reached at 502/564-3410.

If you should have any questions concerning the conditions of this water quality certification, please contact John Dovak of my staff by calling 502/564-3410.

Sincerely,

  
For Jack A. Wilson, Director  
Division of Water

JAW:JLD:jd

Attachment

cc: Eric Somerville, EPA: Atlanta  
Wayne Davis, KDFWR: Frankfort  
Ed Carroll, DOW: Madisonville  
Vince Prittle, DOW: Paducah



## **GENERAL CONDITIONS FOR WATER QUALITY CERTIFICATION**

1. Measures shall be taken to prevent or control spills of fuels, lubricants, or other toxic materials used in construction from entering the watercourse.
2. All dredged material shall be removed to an upland location and/or graded on adjacent areas (so long as such areas are not regulated wetlands), to obtain original streamside elevations, i.e. overbank flooding shall not be artificially obstructed.
3. In areas not riprapped or other wise stabilized, revegetation of stream banks and riparian zones shall occur concurrently with project progression. At a minimum, revegetation will approximate pre-disturbance conditions.
4. To the maximum extent practicable, all instream work under this certification shall be performed during low flow.
5. Heavy equipment, e.g. bulldozers, backhoes, draglines, etc., if required for this project, should not be used or operated within the stream channel. In those instances where such instream work is unavoidable, then it shall be performed in such a manner and duration as to minimize resuspension of sediments and disturbance to substrates and bank or riparian vegetation.
6. Any fill or riprap including refuse fill, shall be of such composition that it will not adversely affect the biological, chemical, or physical properties of the receiving waters and/or cause violations of water quality standards. If riprap is utilized, it is to be of such weight and size that bank stress or slump conditions will not be created because of its placement.
7. If there are water supply intakes located downstream that may be affected by increased turbidity and suspended solids, the permittee shall notify the operator when work will be done.
8. Removal of existing riparian vegetation should be restricted to the minimum necessary for project construction.
9. Should evidence of stream pollution or jurisdictional wetland impairment and/or violations of water quality standards occur as a result of this activity (either from a spill or other forms of water pollution), the Kentucky Division of Water shall be notified immediately by calling 800/564-2380.



JAMES E. BICKFORD  
SECRETARY



PAUL E. PATTON  
GOVERNOR

COMMONWEALTH OF KENTUCKY  
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION  
FRANKFORT OFFICE PARK  
14 REILLY RD  
FRANKFORT KY 40601

## **ATTENTION APPLICANT**

**If your project involves one or more of the following activities, you may need more than one permit from the Kentucky Division of Water.**

- \*building in a floodplain**
- \*road culvert in a stream**
- \*streambank stabilization**
- \*stream cleanout**
- \*utility line crossing a stream**
- \*construction sites greater than 5 acres**

- **Construction sites greater than 5 acres will require the filing of a Notice of Intent to be covered under the KPDES General Stormwater Permit. This permit requires the creation of an erosion control plan.  
Contact Doug Allgeier.**
- **Projects that involve filling in the floodplain will require a floodplain construction permit from the Water Resources Branch.  
Contact Ron Dutta.**
- **Projects that involve work IN a stream, such as bank stabilization, road culverts, utility line crossings, and stream alteration will require a floodplain permit and a Water Quality Certification from the Division of Water. Contact John Dovak.**

**All three contacts listed above can be reached at 502/564-3410. A complete listing of environmental programs administered by the Kentucky Department for Environmental Protection is available from Margaret Shanks by calling 502/564-2150.**



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4  
ATLANTA FEDERAL CENTER  
61 FOLSYTH STREET  
ATLANTA, GEORGIA 30303-8960

MAY 31 2001

Department of the Army  
Nashville District, Corps of Engineers  
P.O. Box 1070  
Nashville, TN 37202-1070  
Attn: Mr. Tim Higgs

Subject: Final Supplement to the Environmental Impact Statement (EIS) for the  
Kentucky Lock Addition, Lower Cumberland and Tennessee Rivers  
CEQ #010056

Dear Sir:

Pursuant to Section 309 of the Clean Air Act and Section 102 (2)(C) of the National Environmental Policy Act, EPA, Region 4 has reviewed the design modifications to the planned 1,200-foot lock and attendant facilities at the existing Kentucky Lock and Dam site. The revised plan will allow for construction of various functional elements as funding and engineering allows. Adverse environmental consequences resulting from the proposal appear to have been reduced to more acceptable levels, especially as regards the endangered mussels within the facility's arc of operation(s). Project mitigation measures, e.g., improvements for recreational fishing at the lock/dam site, should be well received by the user public.

On the basis of our review we have determined that our original environmental concerns about this proposal have been satisfactorily addressed. If we can be of further assistance regarding this project, please contact Dr. Gerald Miller of my staff at 404-562-9626.

Sincerely,

A handwritten signature in dark ink, which appears to read "Heinz J. Mueller", is written over a pre-printed line.

Heinz J. Mueller, Chief  
Office of Environmental Assessment



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

446 Neal Street  
Cookeville, TN 38501

June 29, 2001

Lt. Colonel Peter F. Taylor, Jr.  
District Engineer  
U.S. Army Corps of Engineers  
P.O. Box 1070  
Nashville, Tennessee 37202-1070

Attention: Mr. Don Getty, Project Manager for Relocations, Kentucky Lock Addition

Dear Colonel Taylor:

As requested in your February 23, 2001, letter transmitting a draft supplemental environmental impact statement for the Kentucky Lock Addition Project in Livingston and Marshall counties, Kentucky. Fish and Wildlife Service biologists have completed the following supplemental Fish and Wildlife Coordination Act Report. Our report is provided under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and in accordance with the Scope of Work between our respective agencies. This report has been coordinated with the Commissioner, Kentucky Department of Fish and Wildlife Resources. A copy of his letter is enclosed.

### FISH AND WILDLIFE RESOURCES

A description of the study area and the fish and wildlife resources in the study area were addressed in the original Fish and Wildlife Coordination Act Report prepared for the Cumberland-Tennessee Rivers Below Barkley Canal Navigation Study in April 1989 and in a supplement to the original report prepared for the Lower Cumberland and Tennessee Rivers Navigation Study in April 1991. Those reports identified populations of game and nongame fish and wildlife species that inhabit the lower Tennessee River study area. They also addressed those federally listed and proposed endangered and threatened species that were known to occur in the study area. Additionally, important wetland resources and other sensitive habitats were addressed. Another supplemental report, prepared in March 2000, indicated that no significant changes in fish and wildlife resources had occurred since completion of the 1991 report.

At the present time, the Tennessee River below Kentucky Dam is considered to be one of the best recreational fisheries in the State. Use of the tailwater area by anglers is high and the local economy is based largely on recreation. Although discharges from Kentucky Lake have resulted in a clean-swept bedrock substrate immediately below Kentucky Dam, habitat conditions quickly improve and



this reach of the river contains one of the best pre-impoundment mussel faunas remaining in the Tennessee River basin. The reach from Kentucky Dam downriver to mile 12.0 is designated by the State of Kentucky as an Outstanding Resource Water because of the diverse and abundant mussel community that occurs there, and the presence of several rare and endangered species. Although a dense mussel bed has been known to exist along the right descending bank, a pre-project mussel survey conducted in 1992 by Tennessee Valley Authority divers revealed the presence of a dense mussel bed on the left descending side of the river at river mile 21.0. This area was thought to contain marginal mussel habitat; however, divers collected nineteen species of mussels within the footprints of two proposed barge mooring cells. The aquatic resources below Kentucky Dam are expected to remain relatively stable during the next several years.

#### Endangered, Threatened, and Candidate Species

Endangered species issues for the Kentucky Lock Project and the Kentucky Lock Addition Project were addressed in a biological opinion issued to the Corps of Engineers in March 1991. This biological opinion concluded that the project was not likely to jeopardize the continued existence of the endangered Indiana bat, orange-foot pimpleback, pink mucket pearly mussel, ring pink, and fanshell. In 1999, the Nashville District prepared a biological assessment for the proposed new highway alignment and determined that the same five species might be adversely affected. Formal consultation was re-initiated on November 9, 1999, and a supplemental biological opinion was issued on January 6, 2000, with a conclusion that the proposed new highway would not jeopardize the continued existence of any of the listed species involved.

### **PROJECT ALTERNATIVES AND POTENTIAL IMPACTS**

The current plan proposed by the Nashville District, Corps of Engineers, for alleviating navigational difficulties and delays on the lower Tennessee and Cumberland Rivers is to construct a new lock at Kentucky Dam. A change from the original plan, which was addressed in the supplemental Fish and Wildlife Coordination Act report and supplemental biological opinion, involved construction of a new highway bridge and approaches downriver from the dam, use of laydown/staging areas on the west riverbank, creation of additional borrow areas, construction of new access roads, and creation of a pedestrian/bike bridge over the new and old locks.

The current project plan includes additional features designed to eliminate/minimize impacts to resources during construction and to enhance recreational angling opportunities in the tailwater reach. These features include:

1. Shifting of the new lock alignment upriver 200 feet and riverward 20 feet.
2. Modification of construction methods to lessen areas within cofferdams and to construct more features in the wet.

3. Construction of a new access road to the Vulcan Disposal Area.
4. Construction of a lock visitor center, Powerhouse Island fishing pier, additional parking and restroom facilities on Powerhouse Island, a fishing pier on the west bank, and improvement of the coffer cell facility for anglers.
5. Expansion of the west bank boat basin and ramp.
6. Construction of fishing jetties downriver from the west bank boat basin.
7. Construction of spillway training dikes and a navigation training dike.
8. Elimination of upriver and downriver mooring cells.
9. Elimination of dredging to widen the downriver navigation channel to the I-24 bridge.
10. Elimination of the aquatic disposal site at River Mile 19.9.
11. Use of the Taylor Park Campground as a construction staging area. This includes placement of fill in the area to raise the elevation.
12. Use of the expanded boat basin for contractor activities during construction.
13. Refinements in upriver and downriver lock features and approach channels.
14. Construction of a new lock access road.
15. Elimination of placement of excavated or dredged materials on the east riverbank from Russell Creek to the I-24 bridge.

Impacts to fish and wildlife resources are expected to result from construction of the new access road to the Vulcan Disposal Area. Construction of this road will require some floodplain and wetland filling and relocation of the stream channel. Potential impacts to aquatic resources could result from sedimentation if Best Management Practices to control silt and sediment are not properly implemented during construction. In addition, new features proposed for construction of the new lock would involve pouring of concrete "in the wet." If done improperly and/or if not closely supervised, this activity could result in the spill of concrete into the river which could potentially have significant adverse impacts on downriver aquatic resources.



Suspension and/or deposition of sediment in the river resulting from construction of the additional features could potentially have adverse impacts on downriver aquatic fauna and habitat. However, several of the proposed features would significantly eliminate the need for dredging in the river, excavation of riverbanks, or other ground disturbance on the riverbanks. This will result in a substantial reduction in project-related sedimentation or suspension of sediment in the river.

Construction of the proposed features on Powerhouse Island and on the west bank are not anticipated to result in significant impacts to aquatic resources, provided that Best Management Practices are employed during construction. Proper installation and maintenance of structures such as silt fences, brush barriers, staked hay bales, and rock checks; and placement of fill material away from the shorelines; will minimize sedimentation of the river. Siting of equipment cleaning/staging areas away from the shorelines and proper disposal of excavated materials will minimize runoff of pollutants into the river. Elimination of the in-river disposal site and the channel dredging will avoid impacts to aquatic communities by eliminating disturbance of the river bottom and suspension of particulates. Construction of jetties, expansion of the west bank boat basin and launch, and construction of piers will enhance recreational use of the tailwater by anglers.

Elimination of the proposed upstream and downstream mooring cells could result in a continuation of adverse impacts to mussel resources below Kentucky Dam. During times of heavy traffic, tows must wait for lockage. When the existing mooring cells are in use, many pilots push their barges up on the riverbank while waiting to lock through. This likely has adverse impacts on benthic species, including mussels.

Although modeling done at the Corps' Waterways Experiment Station indicates that construction of the training dike downstream from the lower approach will not result in any downstream impacts, this feature is still of concern. The dike will deflect flow away from the right descending bank and may create an area of deposition or scour on the downstream mussel bed.

## CONCLUSIONS AND RECOMMENDATIONS

Although the Nashville District has, through planning and coordination with State and Federal agencies, added to or eliminated features from the Kentucky Lock Addition Project that are designed to reduce or eliminate impacts to fish and wildlife resources, some significant adverse impacts may still occur.

One of the primary objectives of the project should include protection of existing fish and wildlife resources during construction of the proposed new features associated with construction of the new lock. We recommend that the Corps implement the following measures during and after completion of the project to augment those measures already included in the project plans to protect fish and wildlife resources in the Kentucky Dam tailwater:

1. Improve communication between the lock master and tows traveling upriver to avoid traffic delays that would exceed the mooring capacity below the dam. The lock master should inform pilots well in advance so they can use mooring facilities farther downriver. This should eliminate tows pushing up on the riverbanks while waiting to lock through.
2. The lock master should continue to inform pilots not to moor tows on the landward side of the mooring cells below the dam on the right descending side of the river immediately upstream from the I-24 bridge. This will avoid impacts to the mussel bed by eliminating tows maneuvering over the bed.
3. The Corps should institute a monitoring program of the downstream mussel bed. Monitoring should begin prior to construction of the dike to establish baseline conditions and should continue during construction and for at least two years after completion of the dike. This will provide conclusive evidence of whether or not the dike causes deposition on the mussel bed.

Section 7 of the Endangered Species Act requires all Federal agencies to ensure that actions they authorize, fund, or carry out do not jeopardize the continued existence of federally listed or proposed endangered or threatened species. Agencies must assess potential impacts to listed species and determine if proposed projects may affect them. A finding of "likely to adversely affect" may require initiation of formal consultation; a determination of "likely to jeopardize" a proposed species may require initiation of formal conference. The Nashville District has completed formal consultation for construction of the new lock and for the bridges. Determinations should be made for listed species for the proposed features included in this report, and a biological assessment with those findings and supporting data should be submitted to the Service's Cookeville field office for review and concurrence.

Thank you for the opportunity to comment on the additional features proposed for the Kentucky Lock Addition Project. Your efforts to incorporate protective measures for fish and wildlife resources and to provide additional recreational opportunities are greatly appreciated. If you have any questions or if we can be of further assistance, please contact Jim Widlak of my staff at 931/528-6481, ext. 202.

Sincerely,



Lee A. Barclay, Ph.D.  
Field Supervisor



Enclosure

xc: Director, Kentucky Department of Fish and Wildlife Resources, Frankfort, KY  
(Attention: Wayne Davis)

**FISH & WILDLIFE COMMISSION**

Mike Boatwright, Paducah  
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COMMONWEALTH OF KENTUCKY  
**DEPARTMENT OF FISH AND WILDLIFE RESOURCES**  
C. THOMAS BENNETT, COMMISSIONER

June 19, 2001



Lee A. Barclay, Ph.D.  
US Fish and Wildlife Service  
446 Neal Street  
Cookeville, TN 38501

RE: Supplemental Fish and Wildlife Coordination  
Act Report for the Kentucky Lock  
Addition Project, Livingston and Marshall  
Counties, Kentucky.

Dear Dr. Barclay:

Members of my staff have reviewed the above-referenced document. Based on that review, the Kentucky Department of Fish and Wildlife Resources concurs with the recommendations in your report and offers no other comments on the report.

We appreciate the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read "C. Tom Bennett".

C. Tom Bennett  
Commissioner

CTB/WLD/kh

cc: Edwin F. Crowell, Asst. Director, Division of Fisheries  
Paul W. Rister, Western Fishery District Biologist  
Environmental Section Files



Arnold L. Mitchell Bldg. #1 Game Farm Road Frankfort, Ky 40601  
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## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

446 Neal Street  
Cookeville, TN 38501

April 17, 2001

Lt. Colonel Peter F. Taylor, Jr.  
District Engineer  
U.S. Army Corps of Engineers  
P.O. Box 1070  
Nashville, Tennessee 37202-1070

Attention: Mr. Don Getty, Project Management Division

Dear Colonel Taylor:

Thank you for your letter and enclosure of February 23, 2001, transmitting a Draft Supplemental Environmental Impact Statement (DSEIS) for the Kentucky Lock Addition Project in Livingston and Marshall counties, Tennessee. Fish and Wildlife Service biologists have reviewed the document and we offer the following comments.

The DSEIS adequately addresses the features that have been added to the project since our previous coordination. In January 2000, we issued a supplemental biological opinion for the new highway bridge portion of the project. That document remains in effect. You have determined that the features contained in the DSEIS are not likely to adversely affect federally listed endangered or threatened species. The document adequately addresses these features and we concur with your determination. In view of this, we believe that the requirements of Section 7 of the Endangered Species Act have been fulfilled. Obligations under Section 7 must be reconsidered, however, if: (1) new information reveals that the proposed project may affect listed species in a manner or to an extent not previously considered, (2) the proposed project is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed project.

We have one remaining concern with regard to the DSEIS. On Page 59, Section 6.3, there is a statement that wetland mitigation for the entire project has been accomplished at a nearby mitigation site in Benton, Kentucky. This statement is somewhat misleading. The site has been selected and a mitigation plan has been developed, but the actual mitigation work has not yet been accomplished. We recommend that the final environmental impact statement Section 6.3 be revised to accurately reflect the status of wetland mitigation, and that a copy of the mitigation plan be attached to the document as an Appendix.

With regard to your request that we prepare a supplemental Fish and Wildlife Coordination Act report to address the new project features, we are in the process of preparing the report. When it is completed, we will send it to the Commissioner of the Kentucky Department of Fish and Wildlife Resources (KDFWR) for review and comment and forward the final report with KDFWR's comments to you.

Thank you for your cooperation. The close coordination maintained with us by your staff is greatly appreciated. If you have any questions, please contact Jim Widlak of my staff at 931/528-6481, ext. 202.

Sincerely,

A handwritten signature in dark ink, appearing to read "Lee A. Barclay". The signature is fluid and cursive, with a large initial "L".

Lee A. Barclay, Ph.D.  
Field Supervisor

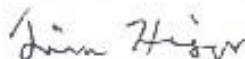


3 JULY 2001

## MEMORANDUM FOR RECORD

SUBJECT: Conversation with Jim Widlak, U.S. Fish and Wildlife Service (USFWS), on Section 7 Endangered Species Act (ESA) Compliance for the Kentucky Lock Addition Project, Final Supplement (I) Environmental Impact Statement (FSEIS)

1. I phoned the USFWS to discuss the Section 7 ESA compliance for the activities included in the FSEIS. In the Draft SEIS (and FSEIS), the Corps and TVA determined that based on the lack of anticipated effects of the Proposed Action on Federally listed species, that reinitiation of the formal consultation under Section 7 of the ESA was not warranted and that the addition of the proposed features is not likely to adversely affect federally listed threatened or endangered species. The USFWS submitted a letter dated April 17, 2001, after reviewing the Draft SEIS, which concurred with the determination and stated the requirements of Section 7 of the ESA have been fulfilled.
2. The Supplemental Fish and Wildlife Coordination Act (FWCA) Report was prepared by the USFWS on June 29, 2001. The report stated that the USFWS still had some concern about impacts of the navigation training dike on the right bank mussel bed. Recommendation Number 3 of the report was for the Corps to institute a monitoring program prior to and for two years after construction of the navigation training dike to provide conclusive evidence of whether or not the dike causes deposition of sediment on the mussel bed. This recommendation will be implemented by the Corps.
3. The FWCA Report also contained a statement that "Determinations should be made for listed species for the proposed features included in this report, and a biological assessment with those findings and supporting data should be submitted to the Service's Cookeville field office for review and concurrence". This determination was made in the DSEIS.
4. The previous finding that the activities covered by the FSEIS are "not likely to cause adverse effect" are still valid unless new information such as the navigation training dike monitoring provides a reason to change this determination. At that time the Corps would prepare a Biological Assessment based on any new information. After discussing with Jim Widlak, the April 17, 2001 letter should be attached to the June 29 FWCA Report to document Section 7 ESA compliance.



Tim Higgs  
Environmental Engineer  
Project Planning Branch

Copy furnished:  
Jim Widlak, USFWS  
Lee Graser, Tennessee Valley Authority



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

446 Neal Street  
Cookeville, TN 38501

July 3, 2001

U.S. Army Corps of Engineers  
Nashville District  
Attention: Mr. Tim Higgs  
P.O. Box 1070  
Nashville, Tennessee 37202-1070

Re: FWS #01-1473A

Dear Mr. Higgs:

Thank you for your letter and enclosures of May 16, 2001, transmitting copies of the Final Supplemental Environmental Impact Statement (FSEIS) for the Kentucky Lock Addition Project in Livingston and Marshall counties, Kentucky. Fish and Wildlife Service biologists have reviewed the document and we offer the following comments.

The FSEIS adequately addresses the comments we submitted by letter of April 17, 2001, after review of the draft Supplemental Environmental Impact Statement. Measures included in the FSEIS to protect fish and wildlife resources, and to mitigate for loss of wetland habitat, will minimize adverse impacts to those resources to the maximum extent possible.

The Fish and Wildlife Coordination Act report for the additional features to the Kentucky Lock Addition Project has been completed and comments have been received from the Director of the Kentucky Department of Fish and Wildlife Resources. The report and letter are being sent under separate cover.

Your concern for the protection of fish and wildlife resources and the manner in which you have maintained coordination with this office throughout the planning stages of the project are greatly appreciated. If you have any questions or if we can be of further assistance, please contact Jim Widlak of my staff at 931/528-6481, ext. 202.

Sincerely,

Lee A. Barclay, Ph.D.  
Field Supervisor



JAMES E. BICKFORD  
SECRETARY



PAUL E. PATTON  
GOVERNOR

COMMONWEALTH OF KENTUCKY  
**NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET**  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

FRANKFORT OFFICE PARK  
14 HICKEY RD  
FRANKFORT KY 40601  
July 26, 2001

Don Getty, Project Manager  
KY Lock Addition  
Nashville District, Corps of Engineers  
P O Box 1070  
Nashville TN 37202-1070

Re: Final Supplement I EIS for Lower Cumberland and Tennessee Rivers-Kentucky Lock Addition  
Project. (SERO 2001-44)

Dear Mr. Getty:

The Natural Resources and Environmental Protection Cabinet (NREPC) serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection **coordinates** the review for Kentucky State Agencies.

The Kentucky agencies listed on the attached sheet have been provided an opportunity to review the above referenced report. Responses were received from 9 (also marked on attached sheet) of the agencies that were forwarded a copy of the document. Attached are comments from the Kentucky Division of Water. The Kentucky Heritage Council states that the Corps of Engineers is aware of their responsibility to be in compliance with Section 106 of the National Historic Preservation Act and 36 CFR Part 800.

If you should have any questions, please contact me at (502) 564-2150, ext. 112.

Sincerely,

Alex Barber  
State Environmental Review officer

Enclosure



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**NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION  
CABINET  
ENVIRONMENTAL REVIEW**

Final Supplement I EIS for Lower Cumberland and Tennessee Rivers-Kentucky Lock Addition  
Project.

The following agencies were asked to review the above referenced project. Each agency that returned a response will appear below with their comments and the date the project response was returned.

**C denotes Comments  
NC denotes No Comment  
IR denotes Information Request  
NR denotes No Response**

**REVIEWING AGENCIES:**

Division of Water _____	comments
Division of Waste Management _____	nc
Division for Air Quality _____	nc
Department of Health Services _____	
Economic Development Cabinet _____	
Division of Forestry _____	
Department of Surface Mining Reclamation & Enforcement _____	nc
Department of Parks _____	nc
Department of Agriculture _____	
Nature Preserves Commission _____	nc
Kentucky Heritage Council _____	comments
Division of Conservation _____	nc
Department for Natural Resources _____	
Department of Fish & Wildlife Resources _____	
Transportation Cabinet _____	
Department for Military Affairs _____	nc



JAMES E. BICKFORD  
Secretary



PAUL E. PATTON  
Governor

COMMONWEALTH OF KENTUCKY  
**NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET**  
DEPARTMENT FOR ENVIRONMENTAL PROTECTION  
FRANKFORT OFFICE PARK  
14 HILLY RD  
FRANKFORT KY 40601

**MEMORANDUM**

**TO:** Alex Barber  
State Environmental Review Officer  
Department for Environmental Protection

**FROM:** Timothy Kuryla *TK*  
EIS Coordinator  
Division of Water

**DATE:** July 20, 2001

**SUBJECT:** FEIS Supp, Kentucky Lake Lock & Dam Work (Livingston & Marshall Counties), SERO 010518-44

The Division of Water has reviewed the Final Environmental Impact Statement Supplement (FEIS Supp) prepared by the U.S. Army Corps of Engineers, Nashville District, regarding lock and dam work at the Kentucky Lake Dam, Tennessee River, River Mile (RM) 22.4 (Livingston and Marshall Counties). The Division reviewed the Draft EIS (SERO 010228-14). The Division compared the FEIS to the DEIS, and reviewed the FEIS preparers' reactions to the Division's DEIS comments.

The Division of Water finds its DEIS concerns are addressed in the FEIS. The Division notes it issued on June 5, 2001 a 33 USC § 1341 ("401") water quality certification for the proposed project.



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